FACT SHEET

HEALTHY VERMONTERS 2010

Pressure-treated Wood

Most pressure-treated wood used in outdoor construction in the United States contains chromated copper arsenate (CCA) (U.S. Consumer Product Safety Commision, 2002). CCA protects wood from deterioration, prolonging the life of structures such as decks and children's play equipment. Recent studies have shown that arsenic from the CCA leaches from treated wood. Arsenic is a natural element present in soil, drinking water, food, air, and some herbicides and insecticides. Exposure to elevated levels of arsenic can be poisonous. Soil beneath CCA-treated wood structures can become contaminated. Arsenic residue may also be present on the wood surface and can easily be picked up by hands or clothing.

What are the health concerns?

Health effects from exposure to arsenic in CCA-treated wood depend on the concentration of arsenic present on the wood surface, the amount of time spent on the wood structure and hand-to-mouth behavior. Potential effects include stomach irritation, blood vessel damage, skin changes and reduced nerve function. Long-term exposure to elevated levels of arsenic has been linked to skin, bladder and lung cancer. Ongoing research is being conducted on other health effects.

How does the arsenic get out of the wood?

During production, boards are dipped into a CCA bath under high pressure. This forces CCA into the wood but it does not entirely seal the wood against weather. Rainwater or snowmelt can penetrate into the wood and dissolve arsenic, bringing it back to the surface. The amount that leaches is enough to contaminate soil directly below and next to CCA-treated wood structures, while also leaving residual arsenic on the wood surface.

Recommendations

- Seal existing CCA-treated structures (decks, playground structures) every year with a sealant such as an oil-based stain. Do not sand before sealing.
- Keep children, pets, garden tools and storage items out from under deck areas where arsenic may have leached in the past.
- Follow the EPA's safe handling guidelines if you use CCA-treated wood in building projects.
- Do not burn CCA-treated wood. Smoke and ash contain toxins.
- Do not use deck washes or bleaches. These products are acidic and may speed the release of arsenic.
- Install skirting around decks and porches to prevent access under structures.
- Use a tablecloth when eating on treated wood picnic tables. Food should not come in contact with CCA-treated wood.
- Always wash hands thoroughly after contact with CCA-treated wood.

The Vermont Department of Health • Division of Health Protection
P.O. Box 70, Burlington, VT 05402 • 652-0358 or 800-439-8550 toll-free in VT

Can arsenic be picked up from wood surfaces?

Studies show that arsenic can be picked up from the surface of CCA-treated wood. This type of pressure-treated wood can be a source of arsenic exposure for children playing on play structures, tree houses or decks. Both new and older CCA-treated wood can have arsenic on the surface.

Who is most likely to be exposed?

Young children who play on or under structures made of CCA-treated wood and who put their hands in their mouths are at the greatest risk of exposure. Older children and adults who spend considerable amounts of time working with CCA-treated wood may also be exposed. Carpenters and homeowners who do not use protective gear when using CCA-treated wood may be exposed to high levels of arsenic.

Can arsenic be a concern in soil and garden plants?

Arsenic can leach from CCA-treated wood used to frame garden beds and may accumulate in soil next to the boards. Recent studies show that soil beneath CCA-treated wood structures can become contaminated with arsenic above background levels. Although there is conflicting evidence about the amount of arsenic taken up by plants, Environmental Protection Agency recommends that CCA-treated lumber should not be used in proximity to edible plants. Consider building new raised bed or garden borders with alternative materials.

Can wells become contaminated from arsenic leaching?

Well water can contain arsenic from natural or other sources. Do not construct dug well covers or spring boxes from CCA-treated wood. Use alternative materials for these applications, such as metal for covers and cedar for spring boxes. Because arsenic is found in some soils and rocks in Vermont, the department recommends testing your well for arsenic. To order an arsenic test kit, call the Vermont Department of Health, laboratory services at 1-800-660-9997.

Are there alternatives to pressure-treated wood?

The department recommends that you seek alternatives to CCA-treated wood when selecting building materials for new outdoor structures. Redwood and cedar are naturally rot-resistant, as are wood-plastic composite building materials. Wood that is pressure-treated with alternative preservatives is now available. The wood preservative industry and the Environmental Protection Agency have negotiated a phaseout of CCA-based pressure-treated wood. After December 31, 2003, CCA will not be manufactured, but existing stocks of the treated wood may still be on the market.

Handling and disposal precautions:

Sawing or sanding of CCA-treated wood requires special precautions: perform work outdoors on a drop cloth so that sawdust can be collected and discarded; wear gloves, a dust mask and eye protection to minimize exposure to the sawdust; wash hands and clothing immediately after completing work. Do not burn CCA-treated wood. Waste CCA-treated wood is a regulated solid waste under Vermont law. For home uses, disposal can be through ordinary trash collection. Do not use CCA-treated wood for wood chips, compost or mulch.

For more information:

U.S. EPA Guidelines: www.epa.gov/pesticides/citizens/cca_consumer_safety.htm
Disposal questions: Vermont Department of Environmental Conservation, Solid Waste Division, 802-241-3444

March 2003

The Vermont Department of Health • Division of Health Protection
P.O. Box 70, Burlington, VT 05402 • 652-0358 or 800-439-8550 toll-free in VT